

Junghanns
Technik
GmbH & Co. KG



**DIGITAL
MONITORING AMPLIFIER**

Handbook of Instruction

Model PM-94

ENGLISH

Warranty

For warranty information, contact your local Marantz distributor.

Retain your purchase receipt

Your purchase receipt is your permanent record of a valuable purchase. It should be kept in a safe place to be referred to as necessary for insurance purposes or when corresponding with Marantz.

Important

When seeking warranty service, it is the responsibility of the consumer to establish proof and date of purchase. (Your purchase receipt or invoice is adequate for such proof).

For UK only: This undertaking is in addition to a consumer's statutory rights and does not affect those rights in any way.

FRANÇAIS

Garantie

Pour les conditions de garantie, veuillez vous adresser à votre distributeur local.

Gardez votre bordereau d'achat.

Votre reçu d'achat est la preuve permanente de votre achat. Il doit être conservé soigneusement pour servir de référence ultérieure dans les cas nécessitant l'intervention de l'assurance, ou en cas de correspondance avec la société Marantz.

Important

Si le recours à la garantie est nécessaire, le consommateur doit fournir la preuve de l'achat et la date. Dans ce cas, le bordereau ou la facture servent de preuve.

DEUTSCH

Garantie

Bewahren sie Ihren Kassenzettel stets gut auf. Bei Inanspruchnahme der Gewährleistung kommt ihm eine wichtige Bedeutung, der Beweis des Kaufdatums zu.

NEDERLANDS

Garantie

Voor garantie kunt U zich tot uw lokale Marantz dealer wenden.

Bewaar uw kassabon

De kassabon is uw bewijs van een waardevolle aankoop. Het dient op een veilige plaats bewaard te worden, zodat U ernaar kunt verwijzen bij verzekerkwesties of correspondentie met Marantz.

Belangrijk

Het overleggen van de aankoopbon kan belangrijk zijn wanneer U gebruik moet maken van de garantie - of service dienst.

ESPAÑOL

Garantía

Para informacion sobre la garantia consulte a su distribuidor Marantz".

SVENSK

Garanti

För upplysningar angående garanti, vänd dig till din lokala Marantz-distributör.

Behåll ditt inköpskvitto

Inköpsskvittot är ditt bevis på ett värdefullt inköp. Det bör förvaras säkert för att kunna användas som referens vid garantiservice är det konsumentens ansvar att uppvisa på inköp och inköpsdatum. (Inköpssvitto eller faktura gäller som sådant bevis).

ESPANOL

Garanzia

Se desiderate informazioni relative alle condizioni di garanzia contattate la Marantz Italiana S.p.A. — Via Monte Napoleone 10-20121 Milano.

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الإنجليزى	

ENGLISH : This unit meets the requirements of EEC Recommendation 82/499.
 FRENCH : Cet appareil est conforme à la recommandation CEE 82/499.
 SPANISH : Este aparato esta conforme a los requerimientos de la Norma 82/499 de la CEE.
 GERMAN : Dieses Gerät entspricht den Anforderungen der EWG Richtlinien 82/499.
 DUTCH : Dit apparaat voldoet aan de in EEG publikatie 82/499 gestelde eisen.
 ITALIAN : Questo apparecchio è conforme alla direttiva CEE 82/499.
 SWEDISH : Enheten möter kraven av EG rekommendation 82/499.

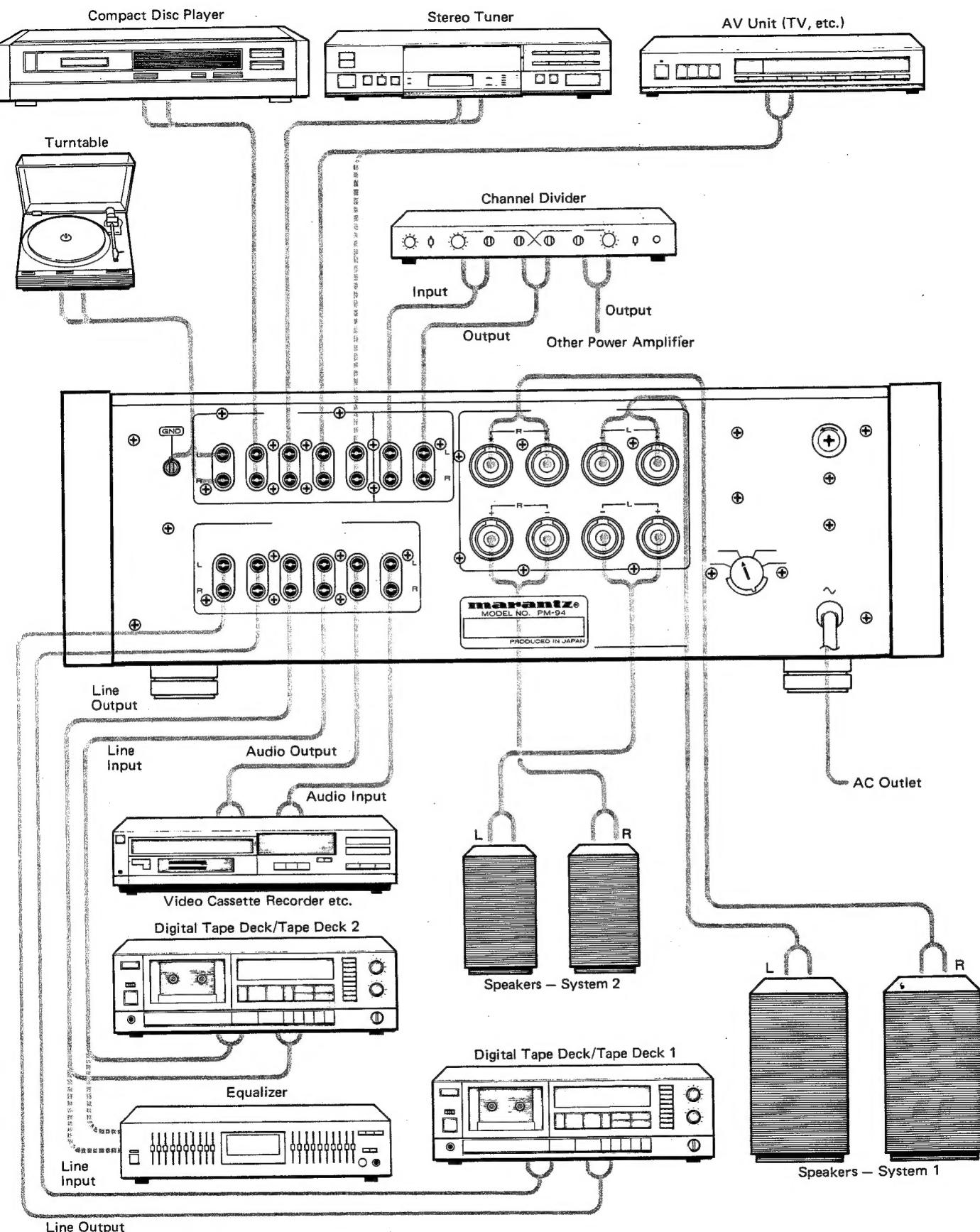
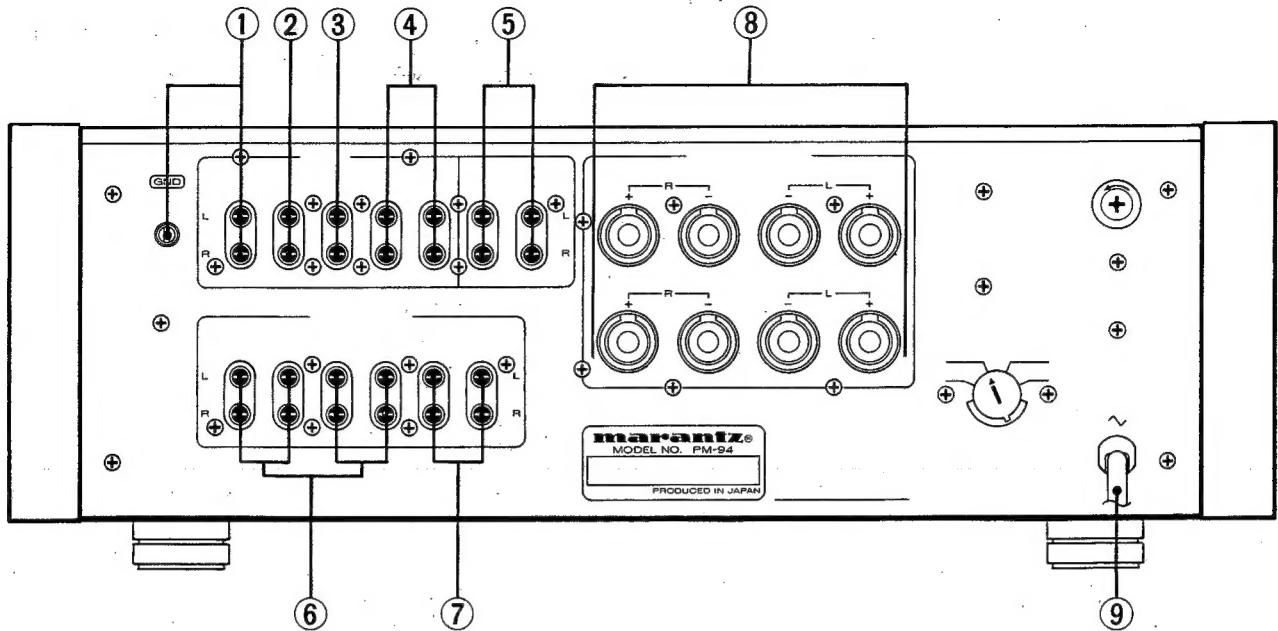
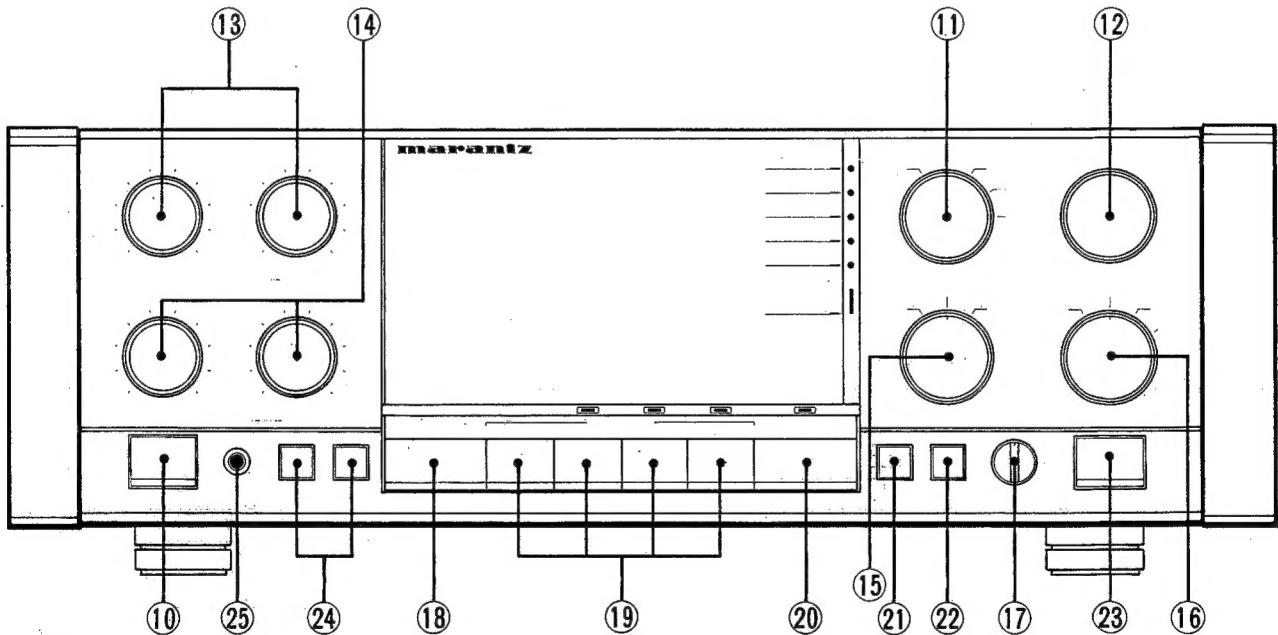


Figure 1. Connections Diagram
Figure 1. Diagramme des Branchements
Figure 1. Schema collegamenti

Abbildung 1. Anschlußschema
Afbeelding 1. Aansluitingen
Figura 1. Schema collegamenti



Afbeelding 2. Achterzijde
 Figure 2. Panel posterior
 Figure 2. Panneau Arrière
 Abbildung 2. Geräterückseite
 Figura 2. Pannello posteriore



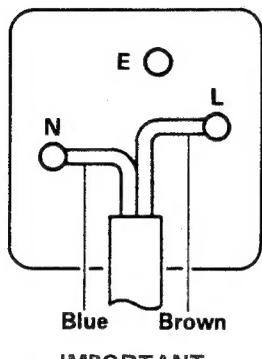
Afbeelding 3. Voorzijde
 Figure 3. Panel frontal
 Figure 3. Face avant
 Abbildung 3. Gerätevorderseite
 Figura 3. Pannello frontale

FOREWORD

Your Marantz product has been specially prepared to comply with the household power and safety requirements that exist in your region. This product has a 4-position voltage selector (110/120/220/240V) on the rear panel (A, E, N and T versions). Since the voltage has been adjusted as shown below upon shipment from the factory, please check the third alphabetical letter of the serial number and refer to the following table to note the characteristics of the model in your possession:

SUFFIX	VOLTAGE
A -	240V AC, 50/60 Hz
T -	240V AC, 50/60 Hz
N -	220V AC, 50/60 Hz
C -	120V AC, 60 Hz
U -	120V AC, 60 Hz
E -	220-240V AC, 50/60 Hz

FOR UNITS SOLD IN THE UNITED KINGDOM



The wires in the mains lead are colored in accordance with the following code:

Blue — Neutral
Brown — Live

As the colors of the wires may not correspond with the terminal identification in your plug, proceed as follows:

- Connect the brown wire to the terminal marked "L" or colored brown or red.
- Connect the blue wire to the terminal marked "N" or colored blue or black.

For 13A plugs, conforming to BS1363, use a 3A fuse.

For other plugs, use a 5A or lower fuse in the plug or adaptor or at the distribution board.

NOTE FOR U.K.

Recording and playback of any material may require consent. For information, please refer to the:

Copyright Act 1956
Dramatic & Musical Performers Act 1958
Performers Protection Acts 1963 & 1972

and to any subsequent statutory enactments and orders.

ABOUT THIS MANUAL

Refer to the figures given on page 2. The callout numbers correspond to those found in this manual. All references to the connections and controls are printed in **BOLDFACE** type as they appear on the unit.

NOTE:

The PM-94 can be used with either analog or digital tape decks. In this text, "tape deck" refers to both an analog tape deck (**TAPE** jacks) and digital tape deck (**DAT** jacks).

REAR PANEL CONNECTIONS

Figure 2 shows the location of the input and output jacks on the rear panel. (Front panel controls and jacks will be discussed later.)

The stereo pairs of shiny round jacks such as used for the phono inputs are called "RCA phono jacks" and are designed to accommodate shielded audio cables outfitted with "RCA phono plugs". Appropriate cables of various lengths are available at your Marantz dealer. Lengths of up to 8 meters may be used. If it is necessary to purchase cable for your installation, we suggest you first arrange your components in the desired position, and then with a measuring tape determine how much cable will be needed. This will ensure that you do not underestimate the lengths required for a neat, attractive installation.

To avoid confusion, connect one cable at a time between the unit and the other components of your system. This is the safest way to avoid cross-connecting channels or confusing source outputs with inputs.

① PHONO (MC/MM) INPUT JACKS

Connect the **L** output cord from the turntable to the **PHONO MC/MM L** jack, and the **R** cord to the **R** jack. Also, make sure to properly connect the ground wire to the **GND** jack.

A short pin is attached to the left and right **PHONO (MC/MM) INPUT** jacks.

If this short pin is removed, it can be inserted into the "REC" jack for **DAT/TAPE 1**, **DAT/TAPE 2**, or **Hi-Fi VCR** if they are not being used, thereby short-circuiting the input signals and preventing operation.

Be sure not to lose the short pin once removed.

② CD INPUT JACKS

Connect the compact disc player's output jacks to the **CD** input jacks.

③ TUNER INPUT JACKS

Connect the stereo tuner's output jacks to the **TUNER** input jacks.

④ AUX 1/AUX 2 INPUT JACKS

Use these jacks as supplementary inputs for connection of audio outputs from AV units, such as the audio jacks on a TV tuner, VCR (video cassette recorder), or laser disc player.

⑤ PRE OUT/MAIN IN JACKS

The **PRE OUT** (pre-amplifier output) and **MAIN IN** (main amplifier input) jacks are connected by a short bar, inserted upon shipment from the factory.

The pre-amplifier and main amplifier become independent when the short bar is removed, and the **PRE OUT** and **MAIN IN** jacks can then be used separately.

NOTE:

Always turn the power off before removing a short bar or RCA pin jack, as failure to do so may result in damage to the speakers. When the short bar is not in use, store it safely.

⑥ DAT/TAPE 1, DAT/TAPE 2 JACKS

Your PM-94 is equipped with 3 sets of recording and playback terminals (**DAT/TAPE 1 REC/PLAY**, **DAT/TAPE 2 REC/PLAY**, and **Hi-Fi REC/PLAY**). Connections are explained below.

● Tape recording:

Connect the **DAT/TAPE 1 REC** jacks to the tape deck's record input jacks (**LINE INPUT**).

● Tape playback:

Connect the **DAT/TAPE 1 PLAY** jacks to the tape deck's playback output jacks (**LINE OUTPUT**).

NOTE:

- When using the 2nd tape deck, use the **DAT/TAPE 2 (REC/PLAY)** jacks.
- Use the cord included with the tape deck for connections.
- The **Hi-Fi VCR (REC/PLAY)** jacks are for use with the audio system of the VCR. Do not connect these to the video jacks.
- Dubbing from the **Hi-Fi VCR** jacks to **DAT/TAPE 1** and **DAT/TAPE 2** is also possible.

⑦ Hi-Fi VCR JACKS

Use these jacks for connection to recording inputs or playback outputs of such equipment as a VCR or PCM digital audio processor.

NOTE:

These jacks are for audio use. Do not use them for connection of video signals.

⑧ SPEAKER SYSTEMS

The PM-94 is equipped with two sets of speaker output terminals, **SYSTEM 1** and **SYSTEM 2**. Usually use the **SYSTEM 1** terminals for speaker connection.

- Use speakers with an impedance of 4 to 16 ohms. The holding circuit may be activated when connecting to speakers having an impedance of less than 4 ohms.
- Connect the right channel speakers to the **R** output terminals and the left channel speakers to the **L** output terminals.
- Both the speakers and output terminals are separated into plus (+: red) and minus (-: black) polarities. Be careful not to confuse these when making connections.

NOTE:

Use only speakers with an impedance of 8 ohms or greater when using both **SYSTEM 1** and **SYSTEM 2**. The holding circuit may be activated when connecting speakers having an impedance of less than 8 ohms, and the regular stereo sound will not be obtained.

⑨ AC POWER CONNECTION

The correct voltage for operating your system is written on the rear panel. Be sure the **POWER** push switch is out before plugging the AC line cord into an electrical outlet.

FRONT PANEL FEATURES

⑩ POWER SWITCH

Depress the switch once to turn the power on, and once again to turn the power off.

The LED for the program source set with the **SELECTOR** switch will light when the power is on and turn off when the power is turned off.

⑪ SELECTOR SWITCH

Use this switch to select the desired program source: **CD**, **PHONO**, **TUNER**, **AUX 1**, or **AUX 2**.

The LED for the corresponding program source will light.

⑫ VOLUME CONTROL

Use this control to adjust the output level of both the left and right channels.

Turn the control clockwise (↑) to increase the volume.

The scale shows attenuation: "0" dB will be the maximum volume, while "∞" dB will be the minimum setting.

⑬ TREBLE CONTROLS

(LEFT - TREBLE - RIGHT)

Use these controls to adjust the high frequency tones. The **LEFT** and **RIGHT** controls are for the left and right channels respectively. Turn the control toward the (+) side to increase, or toward the (-) side to decrease treble. (These controls can only be used when the **TONE DEFEAT** switch is set to the off position.)

⑭ BASS CONTROLS

(LEFT - BASS - RIGHT)

Use these controls to adjust the low frequency tones. The **LEFT** and **RIGHT** controls are for the left and right channels respectively. Turn the control toward the (+) side to increase, or toward the (-) side to decrease bass. (These controls can only be used when the **TONE DEFEAT** switch is set to the off position.)

⑮ PHONO SELECTOR SWITCH

Set this switch to the position corresponding to the type of cartridge being used.

- MM:** Set to this position when using a cartridge with high output (1 mV or greater), such as an MM (moving magnet) type.
- MC (HIGH):** Set to this position when using a cartridge with relatively high output (approximately 250 µV) of the MC (moving coil) type.
- MC (LOW):** Set to this position when using a cartridge with low output (approximately 100 µV) of the MC (moving coil) type.

⑯ TAPE COPY SWITCH

Use this switch when recording or dubbing on the tape decks.

- SOURCE:** Normally use this position, which permits recording from the program source selected with the **SELECTOR** switch.
- 1 + 2/Hi-Fi VCR:** Use this position to record from tape deck 1 onto tape deck 2 or the Hi-Fi VCR.
- 2 + 1/Hi-Fi VCR, VCR + 1/2:** This positions function in the same way as the previous position.
For more detailed information, refer to the section on "TAPE DECK OPERATION".

⑰ BALANCE CONTROL

Use this control to improve the sound of unbalanced programs such as old stereo recordings or stereo broadcasts, and also to adjust the output level of one of the channels. Take note that when the control is turned fully in one direction, for example clockwise, the sound from the speakers on the opposite side (left) will be cut off completely.

⑱ TONE DEFEAT SWITCH

- When not depressed, the audio signals pass through the tone control circuit and tone can be adjusted by the **TREBLE** and **BASS** controls.
- When the switch is depressed, the audio signals bypass the tone control circuit, the frequency response becomes flat, and the **TREBLE** and **BASS** controls will not function.

⑯ TAPE MONITOR SWITCHES

1. **DAT/TAPE 1** — For playback or monitoring of the tape deck connected to the **DAT/TAPE 1** jacks.
2. **DAT/TAPE 2** — For playback or monitoring of the tape deck connected to the **DAT/TAPE 2** jacks.
3. **Hi-Fi VCR** — For playback or monitoring of the VCR (audio) or PCM digital audio processor connected to the **Hi-Fi VCR** jacks.
4. **SOURCE** — When not using the **DAT/TAPE 1**, **DAT/TAPE 2**, or **Hi-Fi VCR** positions, press the **SOURCE** switch and check that the LED indicator has turned off.

⑰ MUTING SWITCH

When this switch is depressed, the amplifier output voltage is attenuated by 20 dB (1/10 of the original). Use this when you wish to momentarily lower the volume, for example when changing records. The LED will light when the switch is depressed.

NOTE:

If while the switch is depressed the **VOLUME** control is used to increase the volume, be sure to turn the volume down before setting the **MUTING** switch back to its original position. Failure to do so will result in an increase of output voltage by 20 dB (10 times), which may damage your speakers.

㉑ SUBSONIC FILTER SWITCH

The subsonic filter is used to remove subsonic frequency noise generated for example by warped records. When the switch is on (when depressed), frequencies of 16 Hz or less are attenuated by 6 dB/OCT.

㉒ MONO SWITCH

When this switch is pressed, the left and right channels are mixed, and the sound produced is emitted from both left and right speakers.

㉓ CD/PHONO DIRECT SWITCH

Press this switch after setting the **SELECTOR** switch to the **CD** or the **PHONO** position. CD or PHONO input signals pass directly from the volume to the flat amplifier circuit and are guided to the power amplifier section.

The switch is used in this way to improve playback of high-grade compact discs or LPs — the signal line is simplified and the signals pass through only the minimum number of circuits necessary. When in the **CD/PHONO DIRECT** position, the LED will light.

㉔ SPEAKER SWITCHES

Use these switches for selection of the **SPEAKER SYSTEM** jacks (**1** or **2**) on the rear panel. Both systems can be used when both switches are depressed.

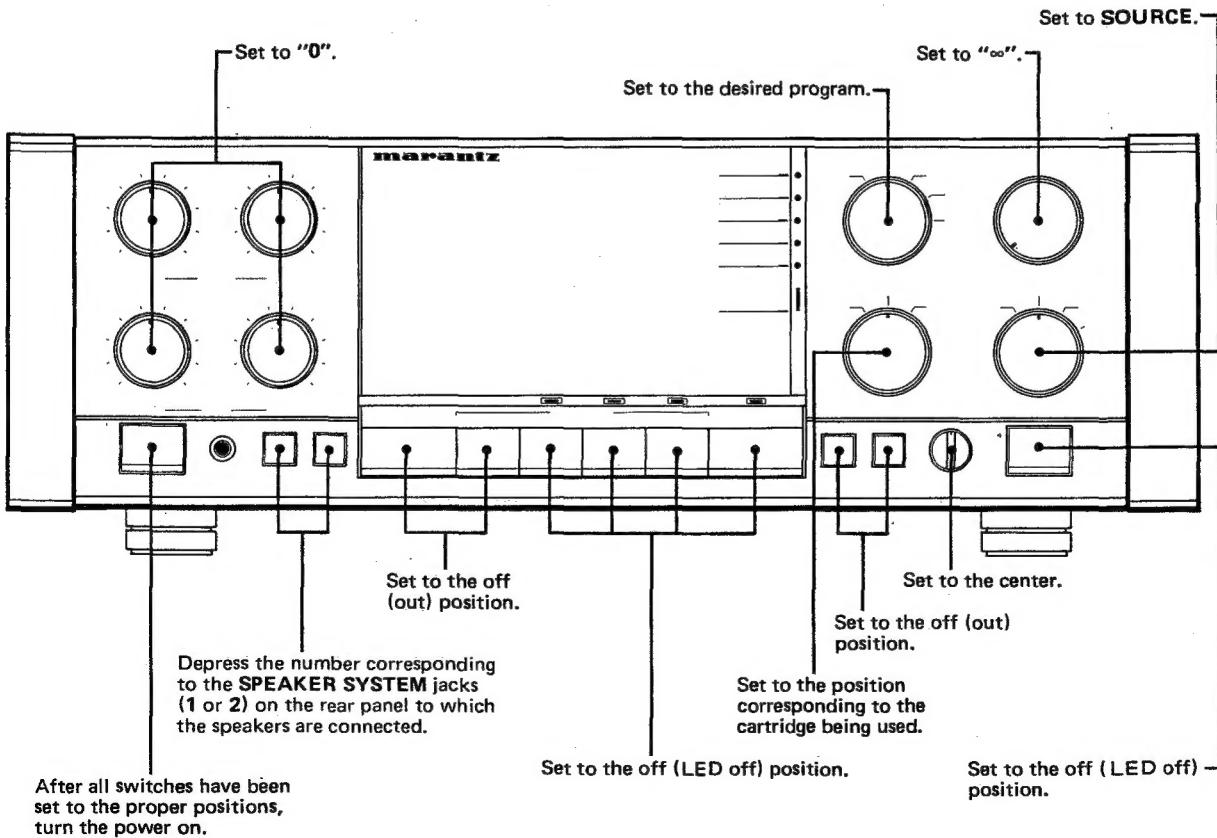
When using only headphones, keep both switches in the off (out) position.

㉕ PHONES JACK

Use this jack for connection of standard headphones.

BEFORE OPERATING

■ Position of Switches



OPERATION

■ PLAYING RECORDS

- (1) Set the **SELECTOR** switch to the **PHONO** position. (The LED will light.)
- (2) Use the **PHONO** switch to choose the type of cartridge [**MM**, **MC (HIGH)**, or **MC (LOW)**].
- (3) Operate the turntable to play the record.
- (4) Use the **VOLUME** control to adjust the volume, and the **TREBLE** and **BASS** controls to adjust the tone.

NOTES:

- Keep the volume turned down when replacing the cartridge or placing the stylus on the record.
- Do not subject the turntable to vibrations during operation, as this may cause skipping or scratch the record.
- Howling may be produced if the turntable is placed too near the speakers, making it impossible to increase the volume.
- Do not turn the power off with the stylus resting on the record.

■ LISTENING TO AM/FM BROADCASTS

- (1) Set the **SELECTOR** switch to the **TUNER** position. (The LED will light.)
- (2) Select the radio station on the tuner.
- (3) Use the **VOLUME** control to adjust the volume, and the **TREBLE** and **BASS** controls to adjust the tone.

■ PLAYING A COMPACT DISC (CD)

- (1) Set the **SELECTOR** switch to the **CD** position. (The LED will light.)
- (2) Operate the compact disc player to play the disc.
- (3) Use the **VOLUME** control to adjust the volume, and the **TREBLE** and **BASS** controls to adjust the tone.
- (4) When using the **CD/PHONO DIRECT** switch, be sure to press the switch once again when the end of the disc is reached and check that the LED has turned off.
A CD cannot be recorded and other program sources cannot be played when the **CD DIRECT** LED is lit.

■ AUX 1/AUX 2

Operate the component connected to the **AUX 1** or **AUX 2** jacks on the rear panel.
(The LED will light.)

- (1) Set the **SELECTOR** switch to the **AUX 1** or **AUX 2** position.
- (2) Operate the component.
- (3) Use the **VOLUME** control to adjust the volume, and the **TREBLE** and **BASS** controls to adjust the tone.

TAPE DECK OPERATION

■ PLAYBACK

- (1) If the tape deck is connected to the **DAT/TAPE 1** jacks on the rear panel of the PM-94, press the **DAT/TAPE 1 MONITOR** switch. If the tape deck is connected to the **DAT/TAPE 2** jacks, press the **DAT/TAPE 2 MONITOR** switch.
(The LED for the switch depressed will light.)

- (2) Play a recorded cassette on the tape deck.

- (3) Use the **VOLUME** control to adjust the volume, and the **TREBLE** and **BASS** controls to adjust the tone.

NOTES:

- When not playing a tape, set the **TAPE MONITOR** switch to the **SOURCE** position and check that the LED has turned off.
- Tape playback is given priority, regardless of the position of the **SELECTOR** switch.

■ RECORDING

Use the following procedure to record onto a tape from such program sources as the turntable, tuner, or compact disc player.

- (1) Set the **TAPE COPY** switch to the **SOURCE** position.
- (2) Use the **SELECTOR** switch to choose the desired program source (**CD**, **PHONO**, **TUNER**, etc.).
(The LED for the program source selected will light.)
- (3) Operate the desired component.
- (4) Operate the tape deck to record.
- (5) To record from a compact disc or LPs, set the **SELECTOR** switch to the **CD** or **PHONO** position, and turn the **CD/PHONO DIRECT** switch off (LED should be off).

■ TAPE MONITOR

When recording on a tape deck equipped with the monitor function (3-head type), the sound being recorded can be monitored by pressing the **TAPE MONITOR** switch for **DAT/TAPE 1** (or **DAT/TAPE 2**). When doing so, be sure to make the proper recording and playback connections.

NOTE:

The **TAPE MONITOR** switches cannot be used to monitor the recording when using 2-headed tape decks. The program source, however, can be heard.

■ DUBBING OPERATION

If you possess two tape decks, it is possible for example to record only your favorite selections from one tape onto another. Dubbing from an open reel tape onto a cassette tape is also possible.

- For dubbing from **DAT/TAPE 1** onto **DAT/TAPE 2**, set the **TAPE COPY** switch to the **COPY 1 + 2/HI-FI VCR**.

When the **TAPE COPY** switch is in the **HI-FI + 1/2 VCR** position, it is possible to tape from the Hi-Fi VCR or PCM digital audio processor connected to the **HI-FI VCR** jacks on the PM-94's rear panel onto a tape deck connected to the **DAT/TAPE 1** or **DAT/TAPE 2** jacks.

NOTES:

- To check the sound being recorded onto the tape, press the **DAT/TAPE 1 MONITOR** switch for the playback side.
- It is possible to listen to another program source chosen by the **SELECTOR** switch during dubbing.
When doing so, make sure the **TAPE MONITOR SOURCE** switch is depressed and that the LED turns off.